IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

EVOLVED WIRELESS, LLC, Plaintiff, v. APPLE, INC., Defendant.	)	C.A. No. 15-542-SLR-SRF **JURY TRIAL DEMANDED**
EVOLVED WIRELESS, LLC, Plaintiff, v. HTC CORPORATION, and HTC AMERICA, INC., Defendants.	)	C.A. No. 15-543-SLR-SRF **JURY TRIAL DEMANDED**
EVOLVED WIRELESS, LLC, Plaintiff, v. LENOVO GROUP LTD., LENOVO (UNITED STATES) INC., and MOTOROLA MOBILITY LLC, Defendants.	)	C.A. No. 15-544-SLR-SRF **JURY TRIAL DEMANDED**
EVOLVED WIRELESS, LLC, Plaintiff, v. SAMSUNG ELECTRONICS CO., LTD. and SAMSUNG ELECTRONICS AMERICA, INC., Defendants.	)	C.A. No. 15-545-SLR-SRF **JURY TRIAL DEMANDED**

EVOLVED WIRELESS, LLC, Plaintiff, v. ZTE CORPORATION, ZTE (USA) INC., and ZTE SOLUTIONS INC., Defendants.	)	C.A. No. 15-546-SLR-SRF **JURY TRIAL DEMANDED**
EVOLVED WIRELESS, LLC, Plaintiff, v. MICROSOFT CORPORATION, MICROSOFT MOBILE OY and NOKIA INC., Defendants.	)	C.A. No. 15-547-SLR-SRF **JURY TRIAL DEMANDED**

DEFENDANTS' ANSWERING CLAIM CONSTRUCTION BRIEF

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Defendants respectfully submit this Answering Claim Construction Brief in opposition to Evolved Wireless's ("Evolved") Opening Claim Construction Brief (D.I. 60) and Supplemental Claim Construction Brief (D.I. 65).[1]

I. SUMMARY OF ARGUMENT

1. Eleven claim limitations require construction as means-plus-function terms under § 112(6) because each recites one of five nonce words—module, generator, unit, entity, and protocol—that is a mere placeholder for "a generic description for software or hardware that performs a specified function." *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015). Indeed, Evolved itself construes each such limitation as mere generic "hardware and/or software" to perform a specified function, thus confirming that these nonce words at most amount to a "black box recitation of structure for the specified function as if the term 'means' had been used." *Id.* at 1350-51.

2. Evolved's proposed 112(6) constructions of these limitations are deficient as a matter of law, because they fail to limit them to any specific structure and thus constitute an improper "attempt[] to claim in functional terms unbounded by any reference to structure in the specification." *Med. Instrumentation & Diagnostics Corp. v. Elekta AB,* 344 F.3d 1205, 1211 (Fed. Cir. 2003).

3. These eleven limitations are each indefinite because the patents-in-suit disclose that the purported structures that Evolved identifies perform different functions than the claims require, disclose nothing more than a "black box" depiction of purported structure that fails to provide any meaningful information, and/or disclose no corresponding structure whatsoever for

[1] Docket entry citations herein refer to the docket for C.A. No. 15-542-SLR-SRF.

performing the claimed function. *See Noah Sys., Inc. v. Intuit*, 675 F.3d 1302, 1318 (Fed. Cir. 2012) (finding means-plus-function terms indefinite where the specification failed to disclose algorithms for performing each of the claimed functions).

4. Additionally, many of the disputed claim terms are indefinite under § 112(2) because they are improperly directed to both an apparatus and a method for using that apparatus, and thereby fail to apprise a person of ordinary skill in the art of the boundaries of the claim. *See, e.g., IPXL Holdings, L.L.C. v. Amazon.com, Inc.*, 430 F.3d 1377 (Fed. Cir. 2006) (finding indefinite a claim to a system including an input means that included a method step of using that input means).

5. Finally, each of Evolved's proposed constructions for "handover," "target base station," and "the measurement report is used to determine" improperly seeks to import specific limitations from the exemplary embodiment depicted in Fig. 9. *See SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1340 (Fed. Cir. 2001) ("reading a limitation from the written description into the claims" is "one of the cardinal sins of patent law"). Evolved's proposed construction for "handover" goes one misstep further by attempting to insert language into the claims not found in the specification, based on a gross misapplication of patent prosecution disclaimer doctrine.

II. COUNTERSTATEMENT OF FACTS

Evolved's statement of facts merely provides background on the '373 patent, and therefore does not bear directly on any disputed issue of claim construction. The declaration of Defendants' claim construction expert, Dr. Matthew C. Valenti, provides an overview of the patents-in-suit, including the '373 patent. Valenti Decl. ¶¶ 29-37.

III. LEGAL STANDARDS

As the Court is familiar with the canons of claim construction, *Mobilemedia Ideas, LLC v. Apple Inc*., C.A. No. 10-258-SLR, 2016 WL 1436589, at *3–4 (D. Del. Apr. 11, 2016), Defendants provide only a brief review of the standards herein. Claim terms are construed according to their "ordinary and customary meaning" from the perspective of a person of ordinary skill in the art at the time of the invention. *Phillips v. AWH Corp*., 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc). "There are only two exceptions to this general rule: 1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution." *Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012).

Pursuant to 35 U.S.C. § 112, ¶ 6, a patentee may "express a claim limitation by reciting a function to be performed rather than by reciting structure for performing that function." *Northrop Grumman Corp. v. Intel Corp.*, 325 F.3d 1346, 1350 (Fed. Cir. 2003). This type of "means-plus-function" claiming requires, however, that the patentee "describe in the patent specification some structure which performs the specified function." *Noah Sys.*, 675 F.3d at 1318 (citation omitted). If the disclosed structure is not "clearly link[ed] or associate[d]" with the function recited in the claim, it does not constitute a "corresponding structure" to the claimed function, and is therefore indefinite. *Noah Sys.*, 675 F.3d at 1311; *Williamson*, 792 F.3d at 1352.

"Section 112, paragraph 2, requires that the claims of a patent 'particularly point out and distinctly claim the subject matter which the applicant regards as his invention.'" *IPXL Holdings, LLC v. Amazon.com, Inc.*, 430 F.3d 1377, 1384 (Fed. Cir. 2005) (quoting 35 U.S.C. § 112 ¶ 2). As such, "reciting both an apparatus and a method of using that apparatus renders a

claim indefinite under section 112, paragraph 2." *Rembrandt Data Techs., LP v. AOL, LLC*, 641 F.3d 1331, 1339 (Fed. Cir. 2011) (*quoting IPXL Holdings*, 430 F.3d at 1384).

IV. ARGUMENT

A. Construction of Means-Plus-Function Terms

For each of the eleven claim limitations that Defendants identified as means-plus-function terms under § 112(6) (collectively, the "Functional Limitations"), there are three disputes[2]: (1) whether each limitation recites a "nonce" word—such as "access module"—that is tantamount to using the word "means" in that it fails to convey any definite structure of a person of ordinary skill in the art; (2) whether the Functional Limitations are indefinite because they are not linked to or associated with sufficient supporting structure in the relevant specifications of the patents-in-suit; and (3) whether Evolved's constructions are deficient as a matter of law because they are not limited to any specific structure.

1. The Functional Limitations recite nonce terms that do not convey sufficient structure for performing the claimed functions.

Each of the Functional Limitations are means-plus-function terms because they are merely one of five nonce words—"module," "generator," "unit," "entity," and "protocol"—modified by terms that lack sufficiently definite structure. *See Williamson*, 792 F.3d at 1350-51. Contrary to Evolved's assertion, none of the nonce terms at issue are "structure connoting term[s] known in the art." *See* Valenti Decl. ¶¶ 40-48, 56-63, 70-77, 88-96, 104-10, 117-27, 134-44, 151-64, 171-83, 190-93, 200-03. Rather, a person of ordinary skill in the art would understand each term to be no more than a generic placeholder for any number of possible

[2] The parties proposed functions for each term are, with one exception, the same. (D.I. 54-1.) With respect to that one exception—the "radio protocol" limitation of claim 24 of the '373 patent—Defendants hereby agree to Evolved's proposed function.

configurations of hardware and/or software, which in no way convey definite structure. *Id*. Because these nonce terms provide at most only a "black box recitation of structure for the specified function as if the term 'means' had been used," they require construction pursuant to § 112(6). *Williamson*, 792 F.3d at 1350-51 (finding the term "distributed learning control module" failed to convey sufficiently definite structure and required construction under § 112 ¶ 6); *Media Rights Techs., Inc. v. Capital One Fin. Corp.*, 800 F.3d 1366, 1371 (Fed. Cir. 2015) (finding the term "compliance mechanism" failed to convey sufficiently definite structure and required construction under § 112(6)).

In fact, Evolved's own proposed constructions demonstrate that the Functional Limitations are generic hardware and/or software limitations that must be construed as means-plus-function terms. Specifically, as set forth in the table below, Evolved's constructions equate nonce terms with generic "hardware and/or software" that is "capable of" or "adapted to" perform the required function. By proposing such identical and generic constructions, Evolved effectively admits that terms such as "code sequence generator," "transmitting unit," and "sequence selecting module" have no specific meaning to a person of ordinary skill in the art. Instead, they are each "a nonce word or verbal construct that is not recognized as the name of a structure," and therefore "reflect nothing more than verbal constructs [that] may be used in a claim in a manner that is tantamount to using the word 'means' because they 'typically do not connote sufficiently definite structure.'" *Williamson*, 792 F.3d at 1350-51 (quoting *Mass Inst. of Tech. v. Abacus Software*, 462 F.3d 1344, 1354 (Fed. Cir. 2006)).

Claim Term	Evolved's Construction
'916 patent, claim 6: "**a code sequence generator** for generating a code sequence . . ."	"**hardware and/or software in the apparatus** that is capable of generating a code sequence . . ."
'916 patent, claim 6: "**a transmitting unit** for transmitting the circular shifted code	"**hardware and/or software in the apparatus** that is capable of transmitting the

sequence . . .”	circular shifted code sequence . . .”
’965 patent, claim 8: “**a sequence selecting module** acquiring information . . .”	“**hardware and/or software in the user equipment** that is capable of performing the following algorithm: acquire information . . .”
’965 patent, claim 8: “**an access module** accessing a random access channel . . .”	“**hardware and/or software in the user equipment** that is capable of transmitting . . .”
’373 patent, claim 24: “**a radio protocol** adapted to receive access information . . .”	“**hardware and/or software in the mobile terminal** adapted to receive access information . . .”
’236 patent, claim 7: “**a reception module** adapted to receive . . .”	“**hardware and/or software in the user equipment** that is capable of receiving . . .”
’236 patent, claim 7: “**a transmission module** adapted to transmit data . . .”	“**hardware and/or software in the user equipment** that is capable of transmitting data . . .”
’236 patent, claim 7: “**a Hybrid Automatic Repeat Request (HARQ) entity** adapted to determine whether there is data stored in the Msg3 buffer . . .”	“**hardware and/or software in the user equipment** that is capable of determining whether there is data stored in the Msg3 buffer . . .”
’236 patent, claim 7: “**A multiplexing and assembly entity** used for transmission of new data”	“**hardware and/or software in the user equipment** that is capable of transmitting new data”
’481 patent, claim 8: “**A preamble generation unit** configured to generate said preamble sequence by repeating a specific sequence . . .”	“**hardware and/or software in the transmitter** that is capable of performing the following algorithm: generating said preamble sequence by repeating a specific sequence . . .”
’481 patent, claim 8: “**A transmission unit** configured to transmit . . .”	“**hardware and/or software in the transmitter** capable of transmitting . . .”

Numerous courts have held that placeholder terms similar to those recited here are nonce terms that fail to convey any definite structure and, accordingly, invoke § 112(6). *See, e.g., id.* at 1350 (holding “module” is a nonce word that invokes § 112(6)); *Advanced Ground Info Sys., Inc. v. Life360, Inc.*, No. 2016-1732, 2016 WL 4039771, at *5 (Fed. Cir. July 28, 2016) (holding “‘symbol generator’ does not describe anything structural” and is therefore

subject to § 112(6)); *Cellular Communs. Equip. LLC v. Samsung Elecs. Co.*, Case No. 6:14-cv-759, 2016 WL 1237429, at *8, *18 (E.D. Tex. Mar. 29, 2016) (holding "controlling entity" and "connection unit" are means-plus-function terms). In each of these cases, the nonce terms were used in the same way as in the present case—as mere placeholders for unidentified structural components, comprised of hardware and/or software—warranting application of § 112(6). Further, even Evolved admits that a radio "protocol" is actually an "algorithm." D.I. 65 at 12.

Nor do any of the recited prefixes—*e.g.*, "sequence selecting"—impart structure to the recited nonce terms—*e.g.*, "module"—for the Functional Limitations. The prefixes "access," "multiplexing," "preamble generation," "transmitting," "sequence selecting," "reception," and "Hybrid Automatic Repeat Request" all describe *functionality*, not structure. *See Verint Sys. Inc. v. Red Box Recorders Ltd.*, No. 14-CV-5403(SAS), 2016 WL 54688, at *11 (S.D.N.Y. Jan. 4, 2016) (holding "communication monitoring system" subject to § 112 ¶ 6 because "system" is a nonce word and "the modifier 'communication monitoring' provides a functional description of the system but no structure"). Similarly, "code sequence generator" is "simply an abstraction that describes the function being performed (*i.e.*, the generation of [code sequences])." *Advanced Ground*, 2016 WL 4039771 at *5. Likewise, as explained in more detail below, the written descriptions for each of the asserted patents fail to impart any structural significance to any of the recited modifiers of the nonce terms in the Functional Limitations. *See Williamson*, 792 F.3d at 1350 (holding that "[t]he prefix 'distributed learning control,'" even informed by the specification, "does not impart structure to the term 'module'"). Nor do the "inputs and outputs" (D.I. 65 at 11) allegedly described in the claims overcome this deficiency. *Id.* at 1351. Indeed, the case law Evolved cites in support of its

arguments, *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286 (Fed. Cir. 2014) and *Inventio AG v. Thyssenkrupp Elevator Ams. Corp.*, 649 F.3d 1350 (Fed. Cir. 2011), were expressly overruled in *Williamson*. *Id.* at 1349.

Moreover, even the declaration of Evolved's own expert, Dr. Cooklev, confirms that the nonce terms recited in the Functional Limitations fail to describe any definite structure. For example, in connection with his opinions, Dr. Cooklev relies on technical dictionary definitions for each of the five nonce terms found in the disputed Functional Limitations, but those definitions Dr. Cooklev cites are wholly generic in nature. *See, e.g.*, D.I. 66 ¶31 (citing the dictionary definition for "unit"), ¶ 43 ("module"), ¶ 64 ("entity"), ¶72 ("generator"), and ¶ 88 ("protocol"); Valenti Decl. ¶¶ 46-48, 60-62, 75, 93, 109, 124-26, 141-43, 159-62, 178-81, 192, 202. For instance, with respect to term "module," Dr. Cooklev notes that the IEEE Dictionary provides that "module" can mean "[a]ny assembly of interconnected components that constitute an identifiable device." D.I. 66 ¶ 43. Likewise, Dr. Cooklev notes the definition of "unit" is "[a] major building block for a set or system, consisting of a combination of basic parts, subassemblies, and assemblies packaged together as a physically independent entity." D.I. 66 ¶ 43; *see also id.* at ¶ 64 (an "entity" may be "understood as 'the hardware/software embodiment of an object.'"). Far from demonstrating that any of these words denote a definite structure, the definitions Evolved's expert cites confirm that the nonce terms are mere placeholders for generic hardware and/or software. *See* Valenti Decl. ¶¶ 46-48, 60-62, 75, 93, 109, 124-26, 141-43, 159-62, 178-81, 192, 202.

Finally, Evolved's reliance on *Linear Tech. Corp. v. Impala Linear Corp.*, 379 F.3d 1311 (Fed. Cir. 2004)—a decision issued before *Phillips* and *Williamson*—is misplaced. First, the term at issue in *Linear Tech.*—"circuit"—is non-functional whereas the terms at issue here

are purely functional. Second, the "description of the circuit's operation" included structural elements such as "switching transistors," which are absent here. *Id.* at 1319-20. Last, even assuming Evolved can identify an extrinsic definition that connotes some "sufficiently definite structure"—such as the court in *Linear Tech* did for "circuit"—that does not end the inquiry under *Williamson*. 792 F.3d at 1348 (citation omitted). A claim term may nonetheless be subject to § 112 ¶ 6 if it "recites function without reciting sufficient structure for performing that function." *Id.* (quotation omitted).[3] Such is the case here. For example, none of Evolved's proffered definitions for "module," "unit," or "transmitter" connotes sufficient structure for the functional language in any of the Functional Limitations. *See GoDaddy.com, LLC v. RPost Commc'ns Ltd.*, No. CV-14-00126-PHX-JAT, 2016 WL 212676, at *56 (D. Ariz. Jan. 19, 2016) (distinguishing *Linear Tech.* and holding the term "processor for associating" subject to § 112 ¶ 6 under *Williamson* notwithstanding the fact that "the term 'processor' connotes at least some structure," because "the claimed 'processor' alone [was] not sufficient structure to perform the [recited] functions" in the disputed claims).

2. The Functional Limitations are not supported by a sufficient corresponding structure in the specification, and are thus indefinite.

In its Supplemental Claim Construction Brief, Evolved has identified for the first time the patent disclosures it contends provide adequate supporting structure for the Functional Limitations. As set forth below, however, the patents-in-suit disclose that the purported structures that Evolved identifies perform different functions than the claims require, disclose merely a "black box" depiction of purported structure that fails to provide any meaningful

[3] Evolved ignores this aspect of *Williamson* altogether. Indeed, the analytical framework that Evolved employs (D.I. 65 at 3-4), was specifically rejected by the *en banc* court in Williamson. *See Williamson v. Citrix Online*, LLC, 770 F.3d 1371, 1378–80 (Fed. Cir. 2014), *opinion superseded on reh'g*, 792 F.3d 1339 (Fed. Cir. 2015).

information, and/or disclose no corresponding structure whatsoever for performing the claimed function. Each of the Functional Limitations are therefore indefinite. *See Noah Sys.*, 675 F.3d at 1318 (finding means-plus-function terms indefinite where the specification failed to disclose algorithms for performing each of the claimed functions).

a. "a code sequence generator for generating a code sequence . . ." ('916 patent, claim 6)

Evolved contends that "Fig. 13 and its accompanying discussion disclose an algorithm for generating a code sequence involving cyclic extension of a first sequence and a circular shift." D.I. 65 at 9-10. But the cited disclosure fails to satisfy the requirements of 35 U.S.C. § 112(6) in two key respects. First, Fig. 13 and the corresponding portion of the specification does not disclose how a code sequence generator actually performs the required functions of "generating a code sequence" and "performing a circular shift," but instead merely disclose performing certain operations on code sequences that have already been generated without explaining how they are generated or what generated them. *See* '916 patent at 3:47-49 ("FIG. 13 is an exemplary diagram illustrating application of circular shift ***to the generated code sequence*** after a padding portion is attached" (emphasis added)); Fig. 9 (depicting "padding" a "Generated CAZAC"); Fig. 10 (depicting circular shift to an "Original CAZAC Seq.").

Furthermore, the portion of the '916 specification that actually does pertain to a "code generation algorithm" wholly fails to limit the required functions of "generating a code sequence" and "performing a circular shift" to any particular algorithm or structure: "code types ***include*** Hadamard code, Pseudo Noise (PN) code, and a Constant Amplitude Zero Auto-Correlation (CAZAC) code, ***among others*** to be used for initial synchronization, cell search, and channel estimation in the wireless communication system." *Id.* at 5:56-6:4 (emphasis added). Because no specific "code generation algorithm" or set of algorithms is identified for

performing the required functions—"generating a code sequence" and "performing a circular shift"—a person of ordinary skill in the art could not interpret the metes and bounds of this claim limitation. Valenti Decl. at ¶¶ 42-45, 49-53. Second, the claimed functions of generating a code sequence and performing a circular shift are not clearly linked to any sort of code sequence generator. *Id.*; *see Noah Sys.*, 675 F.3d at 1311; and *B. Braun Medical, Inc. v. Abbott Labs*, 124 F.3d 1419, 1424 (Fed. Cir. 1997).

The only structure that the '916 patent specification specifically links to generating any code sequence is the "Basic Code Sequence Generation Unit" depicted in Figure 17. Valenti Decl. at ¶¶ 42-45, 50. Significantly, however, Fig. 17 demonstrates that the "Basic Code Sequence Generation Unit" does not perform the functions that this disputed limitation requires. *Id.* The structure set forth in Fig. 17 cannot perform "cyclic extension of a code sequence having a first length" because all adjustments to the length of the code sequence are performed by a "Code Sequence Length Adjustment Unit" that is separately depicted in Fig. 17. *Id.* at ¶¶ 43-44. Moreover, Fig. 17 does not, as the disputed limitation requires, depict a "circular shift" to the product of that "cyclic extension." *Id.* at ¶ 45.

b. "a transmitting unit for transmitting the circular shifted code sequence having the second length" ('916 patent, claim 6)

Evolved's reliance on the "apparatus for transmitting data" in Fig. 1 for the disclosure of supporting structure is entirely misplaced. Figure 1 pertains to a "transmitting end," but a "transmitting unit" is a mere subunit of a "transmitting end," '916 patent at 15:12-13, Fig. 16, and nothing in Figure 1 nor the associated text specifies which portion of Figure 1 is a "transmitting unit" or otherwise links any structure to the claimed function. '916 patent at Fig. 1, 4:12-55; *see also* Valenti Decl. at ¶¶ 61, 66. The only specific references to a "transmitting unit" are in Figure 16 and its associated text (element 1603). *See id.* at Fig. 16, 15:12-13.

Although these portions of the specification reference a "transmitting unit," they provide no detail whatsoever as to the specific structure for performing the claimed function. *See id.*; Valenti Decl. at ¶¶ 58-59, 65.

c. "a sequence selecting module acquiring information about predetermined two or more random access preamble sequence sets . . ." ('965 patent, claim 8)

Evolved points to a variety of figures and their corresponding disclosures as disclosing supporting structure for this disputed term, *see* D.I. 65 at 11 (citing '965 patent at 16:63-17:8, 17:46-55, 18:54-65, 19:15-24, Figs. 11-13, and 15), but not a single one of these disclosures disclose a structure or algorithm indicating *how* a "sequence selecting module" accomplishes the claimed functions, and none of the disclosures clearly link any structure or algorithm to the claimed functions. Valenti Decl. at ¶¶ 80-84.

The only disclosure of a "sequence selecting module" in the '965 patent is in Figure 16, for which the patent generally states that "[t]he sequence selecting module 1101 selects a sequence in accordance with information to be delivered to the base station." '965 patent at 19:9-10. Nowhere in the specification, however, is there any disclosure of *how* the sequence selecting module performs any one of the claimed functions. *See* Valenti Decl. at ¶¶ 72-73. The Federal Circuit has expressly held that this kind of "black box" disclosure fails to provide sufficient structure to support a means-plus-function claim. *See, e.g.*, *Augme Techs., Inc. v. Yahoo! Inc.*, 755 F.3d 1326, 1338 (Fed. Cir. 2014) ("Simply disclosing a black box that performs the recited function is not a sufficient explanation of the algorithm required to render the means-plus-function term definite."); *Function Media, LLC v. Google, Inc.*, 708 F. 3d 1310, 1317-19 (Fed. Cir. 2013) (finding "means for transmitting" limitation indefinite due to lack of structure in specification).

d. "an access module accessing a random access channel using the specific sequence selected by the sequence selecting module"[4] ('965 patent, claim 8)

To manufacture supporting structure, Evolved points to nearly every figure in the patent, as well as a few vague, high-level references in the specification to methods of accessing a random access channel with user equipment (*e.g.*, a mobile phone). *See* D.I. 65 at 6 (citing '965 patent at 1:34-46, 18:54-65, 19:31-34, Figs. 1-4, 6-10, and 15-16). But again, these are merely "black box" disclosures that fail to include any structural or algorithmic details that indicate *how* an "access module" accomplishes the claimed function, and these disclosures identify no structure that is clearly linked to the claimed function.

The only "access module" disclosed in the '965 patent is "Access Module 1102" in Figure 16, which the specification explains "accesses the RACH or the ranging channel through the sequence sequence [sic]." '965 patent at 19:31-34. But the '965 patent does not disclose any structure or algorithm indicating *how* the access module "access[es] a random access channel using the specific sequence selected by the sequence selecting module." *See* Valenti Decl. ¶ 90-91, 96, 99. Such "black box" disclosures fail to provide sufficient structure to support a means-plus-function claim. *See, e.g.*, *Augme Techs., Inc.*,755 F.3d at 1338; *Function Media, LLC*, 708 F. 3d at 1317-19.

e. "a radio protocol adapted to receive access information from a source base station . . ." ('373 patent, claim 24)

This means-plus-function term has two functions: (1) "to receive access information

[4] If the Court were to find that the term "an access module . . ." is not governed by § 112(6), the term should be given its plain and ordinary meaning. Evolved's proposed construction, which would interpret "an access module *accessing* a random access channel using the specific sequence" to mean "hardware and/or software in the user equipment that is capable of *transmitting* the specific selected sequence on the random access channel to the base station," unnecessarily rewrites the claim language and is not supported by the intrinsic record.

from a source base station after a handover request is accepted by the target base station," and (2) "to perform a random access procedure with the target base station using the received access information, such that the access information is configured to permit the terminal to access the target base station . . ." The '373 patent specification states that these two functions are performed, but provides no actual structure or algorithm that the claimed mobile terminal uses to accomplish these functions. For instance, Evolved points to Figure 9 and associated text that states that the mobile terminal "may utilize the RACH for establishing the radio connection between the [mobile terminal] and the target [base station]," and that "the preamble transmission of the [mobile terminal] is based upon information in the handover command message received from the source [base station]." D.I. 65 at 12-13 (citing '236 patent at 7:7-13, Fig. 9). But this is not an algorithm for performing the claimed functions; rather, it is a mere restatement of the claimed functions (albeit using slightly different wording). *See* Valenti Decl. ¶¶ 106-07. Neither these portions of the '373 patent that Evolved cites, nor any other portion of the specification, provide any structure or algorithm describing *how* the "radio protocol" receives access information from the source base station or how it performs the random access procedure. *See id.* ¶¶ 106-13. This falls far short of what § 112(6) requires. *Function Media, LLC*, 708 F. 3d at 1317-19.

In addition, the portion of the specification that Evolved cites cannot describe an algorithm that performs the claimed functions because the cited portion centers on the base station and the base station's interaction with the mobile terminal. Claim 24 claims a mobile terminal, not the system of a mobile terminal and base station. '236 patent, claim 24. Thus, even if the portion of the specification Evolved cites discloses an algorithm (which it does not), the algorithm is not clearly linked to the function of the claimed "radio protocol," as the claim

requires that mobile terminal perform the claimed functions. *Id.*; *see also* Valenti Decl. ¶ 108.

f. "a reception module adapted to receive an uplink grant (UL Grant) signal from a base station on a specific message" ('236 patent, claim 7) / "a transmission module adapted to transmit data to the base station using the UL Grant signal received on the specific message" ('236 patent, claim 7)

Evolved relies on Figure 11 and two portions of the '236 patent specification for the disclosure of purported structure for these two disputed means-plus-function terms. D.I. 65 at 6, 7 (citing '236 patent at 5:30-58, 15:42-16:41, Fig. 11). These disclosures of "reception module" and "transmission module," however, are nothing more than two boxes in Figure 11 and a recitation in the specification that the "reception module" and "transmission module" perform the claimed functions. '236 patent at 5:30-58, 15:42-16:41, Fig. 11. Neither these portions of the specification, nor any other, provide a structure or algorithm indicating *how* a "reception module" or "transmission module" perform the claimed functions or otherwise provide any description of structure that is clearly linked to the claimed functions. *See* Valenti Decl. ¶¶ 119-23, 128-31, 136-40, 145-48. For instance, nothing in the '236 patent specification discloses the structure or algorithm that the reception module uses to "receive an uplink grant signal from a base station on a specific message." *See id.* ¶¶ 136-40, 145-48. Likewise, the '236 patent specification provides no disclosure of the structure or algorithm that the transmission module uses to "transmit data to the base station using the UL Grant signal received on the specific message." *See id.* ¶¶ 119-23, 128-31. Accordingly, the "reception module" and "transmission module" are each a "black box" that perform a recited function, which is wholly insufficient. *See Augme Techs., Inc.*, 755 F.3d at 1338.

g. "a Hybrid Automatic Repeat Request (HARQ) entity adapted to determine . . ." ('236 patent, claim 7)

The portions of the specification on which Evolved relies for structure for this term

merely provide that the HARQ entity performs the claimed functions, but nothing in the specification provides any structure or algorithm that the HARQ entity uses to perform each of these claimed functions. *See* D.I. 65 at 14 (citing '236 patent at 6:65-67, 7:5-6, 13:35-14:17, 15:42-16:41, Fig. 11). Evolved focuses on the flowchart of Figure 9, which depicts "the operation of a HARQ entity of the UE according to an embodiment of the present invention at every TTI." '236 patent at 13:35-14:17, Fig. 9. This flowchart, however, is nothing more than a high-level depiction of the claimed functions that the HARQ entity performs. *Id.*; *see also* Valenti Decl. ¶ 157. For instance, Figure 9 and its associated text do not describe a sufficiently definite structure or process by which the HARQ entity actually "acquir[es] the data stored in the Msg3 buffer if there is data stored in the Msg3 buffer when the reception module receives the UL Grant signal and the specific message is the random access response message." *See id.* *See Noah Sys.*, 675 F.3d at 1311; and *B. Braun Medical, Inc.*, 124 F.3d at 1424. With this and the other claimed functions, the specification does little more than repeating the functions. That cannot be enough to satisfy 35 U.S.C. § 112(6). *See* Valenti Decl. ¶¶ 153-58, 165-68. *See, e.g.*, *Augme Techs., Inc.*,755 F.3d at 1338; *Function Media, LLC*, 708 F. 3d at 1317-19.

h. "a multiplexing and assembly entity used for transmission of new data" ('236 patent, claim 7)

As with the other disputed means-plus-function terms in the '236 patent, Evolved points to figures and a few portions of the specification that provide no information about the "multiplexing and assembly entity" other than that it performs the claimed function—transmitting new data. D.I. 65 at 8 (citing '236 patent at 5:48-67, 13:66-14:17, 15:42-16:41). For instance, Evolved argues that the following portion of the specification specifically

discloses sufficient structure for the "multiplexing and assembly entity": "the HARQ entity 1104 according to the present embodiment may transfer the data acquired from the multiplexing and assembly entity 1105." *Id.* at 8 (citing '236 patent at 16:9-11). But clearly this portion of the specification neither discloses how the "multiplexing and assembly entity" transmits new data nor links any actual structure to this function. *See* Valenti Decl. ¶¶ 173-75. The remainder of the '236 patent specification is no different. *Id.* ¶¶ 173-75, 184-87.

i. "a preamble generation unit configured to generate said preamble sequence . . ." ('481 patent, claim 8)

The '481 patent does not disclose "a preamble generation unit" or describe any structure that corresponds to this term. In fact, Figure 11 and the passages on which Evolved relies merely pertain to the structure of the *preamble*, which is the output of performing the claimed function, and thus cannot provide the structure of the "preamble generation unit" that is required to perform that function. *See* '481 patent at 11:55-67 ("FIG. 11 is a diagram illustrating a structure of a preamble . . ."); *see also* 3:19-27 (describing a "transmission method"); 11:46-12:10 (generally describing repeated transmission, "structure of a preamble," and repetitive transmission thereof); Valenti Decl. at ¶ 196. The figure and text on which Evolved relies also do not clearly link the claimed function to any sort of preamble generation unit. *See* Valenti Decl. at ¶ 196. *See Noah Sys.*, 675 F.3d at 1311; *B. Braun Medical, Inc.*, 124 F.3d at 1424. Furthermore, the '481 patent defines the claimed function of "generat[ing]" the required "preamble sequence" in purely subjective terms, providing that no specific, defined algorithm is linked to the claimed function: "Every sequence having excellent transmission characteristic, such as Hadarmad code and gold code, can be used as the code sequence." '481 patent at 12:26-28; *see also* Valenti Decl. at ¶¶ 195-97. "The scope of claim language cannot depend solely on the unrestrained, subjective opinion of a particular individual purportedly

practicing the invention." *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1350 (Fed. Cir. 2005).

j. "a transmission unit configured to transmit, on a random access channel, said preamble sequence to a receiving side" ('481 patent, claim 8)

The '481 patent nowhere discloses a "transmission unit" or specifies its structure. *See* Valenti Decl. at ¶¶ 204-07. As purported structural support for this limitation, Evolved cites to two passages in the '481 patent specification. Evolved's first cited passage (7:57-8:4), however, pertains to transmitting "uplink data," and not to transmitting a "preamble sequence." *See* '481 patent at 7:51-54; Valenti Decl. at ¶ 206. The second passage pertains to "repetitive" transmission, and does not specify any structure for a "transmission unit" or how a transmission unit "transmit[s], on a random access channel, said preamble sequence to a receiving side." *See* '481 patent at 11:46-54; Valenti Decl. at ¶ 206.

3. Evolved's proposed constructions of the Functional Limitations are pure functional claiming that is not limited to any specific structure, and are thus deficient as a matter of law.

Despite purporting to identify structural support for each Functional Limitation in the corresponding specifications and/or figures, Evolved has proposed constructions (including its alternative constructions) that are divorced from and make no reference to any specific structure or disclosure in any patent-in-suit. Evolved instead proposes as structure only generic "hardware and/or software" capable of performing the claimed function. *See* D.I. 54-1; D.I. 65. Evolved's proposed constructions contravene the patent statutes' requirement that means-plus-function limitations "shall be construed to cover the corresponding structure, material, or acts described in the specification or equivalents thereof." 35 U.S.C. § 112(6); *see also Med. Instrumentation & Diagnostics Corp.*, 344 F.3d at 1211 (noting that construction of a means-plus-function term requires identification of structure in the specification or prosecution history

that "clearly links or associates" the patentee's proposed structure with the claimed function). To adopt such constructions would permit Evolved to capture any possible means for achieving the claimed functions, without limitation to any specific structure disclosed in the specification (or otherwise). *See, e.g.*, *Blackboard, Inc. v. Desire2Learn, Inc.*, 574 F.3d 1371, 1385 (Fed. Cir. 2009) ("By failing to describe the means by which the access control manager will create an access control list, Blackboard has attempted to capture any possible means for achieving that end."). Indeed, the Federal Circuit has long recognized that § 112(6) prevents such pure functional claiming. *Id.* ("A patentee cannot avoid providing specificity as to structure . . . To allow that form of claiming under section 112, paragraph 6, would allow the patentee to claim all possible means of achieving a function.") (citation omitted).

B. Terms that are Indefinite Under *IPXL* and *Rembrandt*

A number of disputed terms in the '965, '236, and '373 patents improperly mix method steps in an apparatus claim, and are thus indefinite under §112 ¶ 2:

The 965 Patent	
Claim 8	"a sequence selecting module ***acquiring*** information about predetermined two or more random access preamble sequence sets, ***selecting*** one random access preamble sequence set from among the predetermined random access preamble sequence sets considering at least one of a size of information to be transmitted by the apparatus and a degree of a path loss, and randomly ***selecting*** a specific sequence within the selected random access sequence set"
	"an access module ***accessing*** a random access channel using the specific sequence selected by the sequence selecting module."
The '236 Patent	
Claim 7	"Hybrid Automatic Repeat Request (HARQ) entity adapted to determine whether there is data stored in the Msg3 buffer . . . , ***acquiring*** the data stored in the Msg3 buffer if there is data stored in the Msg3 buffer when the reception module ***receives*** the UL Grant signal and the specific message is the random access response message, and ***controlling*** the transmission module to transmit the data stored in the Msg3 buffer to the base station using the UL Grant signal ***received*** by the reception module on the specific message"
	"a multiplexing and assembly entity ***used*** for transmission of new data"

	"wherein the HARQ entity ***acquires*** the new data to be transmitted from the multiplexing and assembly entity if there is no data stored in the Msg3 buffer when the reception module ***receives*** the UL Grant signal on the specific message or the received message is not the random access response message, and ***controls*** the transmission module to transmit the new data acquired from the multiplexing and assembly entity using the UL Grant signal ***received*** by the reception module on the specific message"
Claim 8	"wherein the HARQ entity ***transfers*** the data acquired from the multiplexing and assembly entity or the Msg3 buffer to a specific HARQ process of the one or more HARQ processes and ***controls*** the specific HARQ process to transmit the data acquired from the multiplexing and assembly entity or the Msg3 buffer through the transmission module"
Claim 9	"wherein, ***when*** the specific HARQ process ***transmits*** the data stored in the Msg3 buffer through the transmission module, the data stored in the Msg3 buffer is controlled to be copied into a specific HARQ buffer corresponding to the specific HARQ process, and the data copied into the specific HARQ buffer is ***controlled to be transmitted*** through the transmission module"
Claim 10	"wherein the UL Grant signal ***received*** by the reception module on the specific message is a UL Grant signal received on a Physical Downlink Control Channel (PDCCH)"
	"wherein the HARQ entity ***controls*** new data to be transmitted in correspondence with the ***received*** UL Grant signal received on the PDCCH"
Claim 12	"wherein the data ***stored*** in the Msg3 buffer is a Medium Access Control Protocol Data Unit (MAC PDI) including a user equipment identifier"
Claim 13	"wherein the UL Grant signal ***received*** on the specific message is either a UL Grant signal ***received*** on a Physical Downlink Control Channel (PDCCH) or a UL Grant signal ***received*** on the random access response message"
The '373 Patent	
Claim 24	"a ***radio protocol*** adapted to receive access information from a source base station after a handover request is accepted by the target base station and to perform a random access procedure with the target base station using the received access information, such that the access information is configured to permit the terminal to access the target base station"
	"wherein the dedicated preamble ***is determined*** by the target base station"

1. The Disputed Terms Require Methods to be Performed when Using the Claimed Apparatus.

Although the disputed terms listed above appear in apparatus claims, the ***bolded*** words in each of the terms require that a method step be performed for infringement to occur. *See* Valenti Decl. ¶¶ 209-11, 213-16, 218-19. For example, claim 8 in the '965 Patent recites an

"apparatus for transmitting a signal." '965 patent, claim 8. The first limitation, however, requires that the "apparatus for transmitting a signal" comprise a "sequence selecting module" that requires three method steps for infringement to occur: (1) "***acquiring*** information . . . ," (2) "***selecting*** one random access preamble sequence . . . ," and (3) "randomly ***selecting*** a specific sequence . . ." *Id.*; *see also* Valenti Decl. ¶¶ 209-11. Similarly, the second disputed term in claim 8 recites that the "apparatus for transmitting a signal" comprises "an access module" that must perform another method step for infringement to occur: "***accessing*** a random access channel . . ." '965 patent, claim 8; *see also* Valenti Decl. ¶¶ 209-11.

The claims-at-issue in the '236 Patent (claims 7-10, 12 and 13) are also all directed to an apparatus—"user equipment." The claims, however disclose a "HARQ entity" that, across the claims-at-issue, must perform numerous different method steps for infringement to occur, as indicated by the bolded language in the table above. '236 patent, claims 7-10, 12, 13; *see also* Valenti Decl. ¶¶ 213-16. The claims also require that the "reception module" perform the additional step of receiving the UL Grant signal. '236 patent, claims 7-10, 12, 13; *see also* Valenti Decl. ¶¶ 213-16. Notably, when the patentee intended to draft claim limitations directed to the capability of the apparatus, it did so by using the language "adapted" and the infinitive form of the verb describing what the apparatus must be capable of doing: "[HARQ] entity adapted to determine . . ." *See* '236 Patent, claim 7. The patentee then switched to a different verb form when indicating method steps that must be performed. For instance, in the first disputed limitation of claim 7 of the '236 patent, the claim recites a HARQ entity "adapted to determine," but then switches to reciting that the HARQ entity is "acquiring" and "controlling." '236 patent, claims 7-10, 12, 13; *see also* Valenti Decl. ¶ 215. Had the patentee not intended to include method steps in these claims, it clearly knew how to draft the claims to

avoid requiring method steps. Likewise, certain of the disputed limitations include the word "when"—e.g., "when the specific HARQ process transmits the data," '236 patent, claim 9—introducing a clear temporal aspect into the claims. *See* Valenti Decl. ¶ 215. At the very least, it would not be clear to one of skill in the art whether infringement takes place when the apparatus is capable of performing the steps or when the steps are actually performed.

Similarly, claim 24 of the '373 patent, and 25 that depends therefrom, is directed to an apparatus—"a mobile terminal." The limitations of the claims, however, are directed solely to "a radio protocol," which, as Evolved's expert Dr. Cooklev admits, is a "procedure." D.I. 69 (Cooklev Decl.) at ¶ 88 (citing Appendix 2 at 882); *see also* Valenti Decl. ¶ 218. Thus, to infringe claims 24 and 25, the claimed "mobile terminal" must be used to perform the "radio protocol." *See* Valenti Decl. ¶¶ 218-19. In addition, claims 24 and 25 require that the referenced target base station perform the step of determining the dedicated preamble. *Id.*

2. The Disputed Terms Are Indefinite Under § 112(2) Because they Recite Both an Apparatus and a Method.

The method steps in the disputed terms listed above for the '965, '236, and '373 patents, are similar to the term found indefinite in *Rembrandt Data Techs.,* in that the methods are performed when a user uses the claimed apparatus. *Rembrandt Data Techs. v. AOL,* LLC, 641 F.3d 1331, 1339 (Fed. Cir. 2011); *see* Valenti Decl. ¶¶ 208-19. In *Rembrandt*, the apparatus at issue claimed "a data transmitting device" including the following method limitation: "transmitting the trellis encoded frames." 641 F.3d at 1339. The claim was found indefinite because it recited both an apparatus *and* a method of using the apparatus (*i.e.,* the transmitting occurred during use.) *See id.* The same is true for the disputed patent terms listed above. *See* Valenti Decl. ¶¶ 208-19. This improper drafting creates confusion as to when direct infringement actually occurs, as the terms require more than just the manufacture, sale,

or importation of the claimed apparatus; they require actually performing the methods recited therein. *See IPXL Holdings*, 430 F.3d at 1384*; see also* Valenti Decl. ¶¶ 208-19. Accordingly, the disputed terms are indefinite under §112 ¶ 2. *Rembrandt Data Techs., LP*, 641 F.3d at 1339; *see also In re Katz Interactive Call Processing Patent Litig.*, 639 F.3d 1303, 1318 (Fed. Cir. 2011) (applying *IPXL* in finding claim limitations indefinite).

C. Construction of Remaining Terms

1. "an Evolved Universal Mobile Telecommunication System (E-UMTS)" ('373 patent, claim 25)

The term "an Evolved Universal Mobile Telecommunication System (E-UMTS)," (hereinafter "E-UMTS"), renders claim 25 of the '373 patent invalid as indefinite because it fails "to inform, with reasonable certainty, those skilled in the art about the scope of the invention." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014). E-UMTS was used in draft 3GPP specifications and working group papers as a general term for the next generation wireless communications system after the third generation mobile cellular system known as UMTS. *See* Valenti Decl. ¶ 220. As the '373 patent specification recognizes, E-UMTS was not a defined standard at the time of the alleged invention; rather, the meaning of E-UMTS was evolving, as "its standardization work [was] currently being performed by the 3GPP standards organization." '373 patent at 3:36-41; *see also* Valenti Decl. ¶ 220. Indeed, Evolved's own infringement contentions demonstrate that E-UMTS had no fixed meaning at the time of the invention, as Evolved interprets that term only with reference to an August 2008 version of the 3GPP technical specifications, which post-date by two years the filing of the '373 patent application. Stiernberg Decl., Ex. 5 at 85-87. Thus, the term E-UMTS fails to inform a person of ordinary skill in the art of the scope of the invention because it refers to an industry standard that was not yet developed, and therefore had no definite meaning. *See*

Valenti Decl. ¶ 220. *Cf.* Ex parte Simpson, 1982 WL 52193, 218 U.S.P.Q. 1020 (Pat.& Tr. Office Bd. App. 1982) (holding indefinite use of the trademark "Hypalon" because it was not satisfactorily defined in contemporaneous literature). To the extent the Court deems otherwise, the term "E-UMTS" must nonetheless be limited to what it was understood to mean at the time of its alleged priority date, because the term "did not and could not enlarge the scope of the patent to embrace technology arising after its filing." *See Schering Corp. v. Amgen Inc.*, 222 F.3d 1347, 1352–54 (Fed. Cir. 2000).

2. "handover" ('373 patent, claims 1, 4, 7, 8, 13, 15, 17, 23 and 24)

The parties primarily dispute whether, during a "handover," the connection to a target base station can occur only "after radio connection with the source base station has ceased." Evolved has proposed this limitation in an apparent effort to distinguish Defendants' prior art references that purportedly do not expressly disclose a "hard handover" (versus a "soft handover"). The fundamental flaw in Evolved's argument is that none of the terms "hard handover," "soft handover," "make-before-break," or "break-before-make"—the primary basis of Evolved's construction relies—appear anywhere in the '373 patent. Under *Phillips*, the intrinsic and extrinsic record establish that the ordinary meaning of the term "handover" encompasses both hard and soft handovers. And there is no "clearly express[ed]" lexicography or "clear and unmistakable" disclaimer to alter this conclusion. *See Thorner*, 669 F.3d at 1365-67. Evolved cannot use the prosecution history "to add an entirely new limitation to the claim." *Serrano v. Telular Corp.*, 111 F.3d 1578, 1584 (Fed. Cir. 1997).

The intrinsic record is devoid of any evidence that, as Evolved contends, the term "dedicated preamble eliminates the need for . . . [a] soft handover." D.I. 60 at 15. In fact, neither the term "dedicated preamble" nor "soft handover" appears in the specification. Evolved contends that Fig. 9 demonstrates that "the radio connection has ceased" (D.I. 60 at

15) between the terminal ("UE (10)") and the source base station ("Source eNB (12)") after the terminal has received the "Handover Command (S14)." Yet *nowhere* does the specification or Fig. 9 describe the state of the connection between the source base station and the terminal after the handover command is received. As a result, Fig. 9 is consistent with both soft and hard handovers. Indeed, Evolved's brief conspicuously fails to cite to any intrinsic evidence disclosing that "the radio connection has ceased" at this stage of the handover. D.I. 60 at 15.

Evolved also incorrectly claims that the applicant disclaimed "soft handovers" during prosecution. D.I. 60 at 15-17. But "[f]or prosecution disclaimer to attach, [Federal Circuit] precedent requires that the alleged disavowing actions or statements made during prosecution be both clear and unmistakable." *Omega Eng'g, Inc, v. Raytek Corp*., 334 F.3d 1314, 1325–26 (Fed. Cir. 2003). The applicants' statements during prosecution were neither. In the April 1, 2009 remarks on which Evolved relies (D.I. 60 at 16), the applicant stated:

> In the discussion with respect to dependent claim 6, the Examiner correctly states that "Samuel does not expressly teach random access parameter information." In addition, Applicants note that Samuel merely discloses a conventional soft handover technique between networks and fails to teach or suggest the limitations of independent claim 1 of receiving access information from the target base [station] comprising random access information used in a random access procedure, or that the random access information includes at least one of signature information and preamble information from the random access procedure.

D.I. 62 at JA-1325. By this statement, the applicant expressly distinguished the Samuel reference on several grounds, namely that it did not teach: (1) "random access parameter"; (2) "random access information used in a random access procedure"; and (3) "access information includes at least one of signature information and preamble information for the random access procedure." Significantly, however, the applicant *did not*, as Evolved contends, distinguish Samuel on the ground that Samuel "discloses a conventional soft handover." D.I. 60 at 16.

Rather, the applicant merely described a feature of the Samuel reference in a non-limiting way. *See Computer Docking Station Corp. v. Dell, Inc.*, 519 F.3d 1366, 1375 (Fed. Cir. 2008) ("Prosecution disclaimer does not apply . . . if the applicant simply describes features of the prior art and does not distinguish the claimed invention based on those features."). Indeed, the applicant affirmatively *could not* distinguish the Samuel reference on this ground as the Samuel reference also discloses a "hard handover" in which "the call is stopped on [one system] and re-established on [another system]." D.I. 61-3, Ex. 3 at ¶ 0006. Further, the "dedicated preamble" limitation—the "crux" of Evolved's disclaimer argument (D.I. 60 at 16-17)—was not added to the claims until *after* the alleged Samuel disclaimer. *See* D.I. 62 at JA-1490. Statements made in the prosecution history directed to limitations not present in the asserted claim do not constitute disclaimer. *See Serrano*, 111 F.3d at 1584. Moreover, the applicant used the "dedicated preamble" limitation to attempt to distinguish "contention-based" systems in the prior art, not "soft handover" systems. D.I. 62 at JA-1497; *see also* Valenti Decl. ¶ 221. Indeed, one of skill in the art would not understand that a "dedicated preamble" cannot be used in a soft handover, as Evolved contends. *See* Valenti Decl. ¶ 221.

The extrinsic evidence confirms that the ordinary meaning of "handover," as used in the '373 patent, is not limited to a "hard" or "break-before-make" handover. For example, the '373 specification states unambiguously that "*the present invention* is also applicable to other wireless communication systems using different air interfaces" such as "Mobile Wi-Max." '373 patent at 9:20-24 (JA-1163) (emphasis added). The Mobile Wi-Max standard, as it existed at the time of the alleged priority date of the '373 patent, defined "handover" as "[t]he process in which a[] mobile station (MS) migrates from the air-interface provided by one base station (BS) to the air-interface provided by another base station (BS)." *See* Valenti Decl.

¶ 222. Further, the definition of "handover" in Wi-Max expressly included two "variants": "break-before-make" and "make-before-break." *Id.* By way of further example, a technical dictionary in the relevant field similarly defines "hand over" as "the passing of a call signal from one base station to the next as the user moves out of range or the network software re-routes the call." *See* Valenti Decl. ¶ 223

Evolved's proposed construction for "handover" is not its "ordinary and customary meaning" because the phrase "after radio connection with the source base station has ceased" is limited to a "hard" or "break-before-make" handover. *See Phillips*, 415 F.3d at 1312. Absent lexicography or disclaimer—both of which are absent here—this is improper. *See Thorner*, 669 F.3d at 1365-67. By contrast, Defendants' proposed construction is consistent with both the intrinsic and extrinsic evidence.[5]

3. "target base station" ('373 patent, claims 1, 3, 8, 15, 18, 20, 23-25)

The parties agree that a handover transfers a terminal from a source base station to a target base station. The parties disagree whether the claims require that "the source base station determines" the identity of that target base station. Evolved has proposed this additional limitation to attempt to distinguish prior art references in which an entity other than the source base station makes the determination. The "ordinary and customary meaning" of "target base station" is not so limited, yet Evolved fails to proffer any evidence in support of such a departure. *See Phillips*, 415 F.3d at 1312. Rather, Evolved's construction improperly seeks to import limitations from the specification and conflicts with the claim language.

Evolved's proposed construction seeks to import a specific limitation from an

[5] Evolved contends that Defendants' proposed construction is not needed. (D.I. 60 at 18). As plainly noted in Defendants' proposal, however, Defendants' construction demonstrates how "handover" may be used as both a noun and an adjective in the asserted claims.

exemplary embodiment in Fig. 9—this is "one of the cardinal sins of patent law." *SciMed Life Sys., Inc.*, 242 F.3d at 1340. "[I]t is improper to read limitations from a preferred embodiment described in the specification—even if it is the only embodiment—into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited." *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004). Here, there is no such indication. The specification states unambiguously that Fig. 9 is "an *exemplary* embodiment of the present invention" and that "[t]he scope of the claims is intended to cover various modifications and equivalent arrangements of the illustrative embodiments." '373 patent at 6:7-8, 9:53-55 (emphasis added). This alone is enough to reject Evolved's construction. *Robert Bosch, LLC. v. Pylon Mfg. Corp.*, C.A. No. 08-542-SLR, 2010 WL 1417874, at *3 (D. Del. Mar. 30, 2010) (citing *Liebel-Flarsheim*, 358 F.3d at 906).

Further, the structure of the claims refutes rather than supports Evolved's construction that the source base station must determine the base station to which the terminal is transferred. For example, the first limitation of claim 15 recites "receiving access information from a source base station after a handover request is accepted by a target base station." '373 patent at 11:3-5. There is nothing inherent in the claim language that would require the source base station—as opposed to the terminal, for example—to determine the target base station. In contrast, the same claim 15 requires that "the dedicated preamble is *determined* by the target base station." *Id.* at 11:10-11 (emphasis added). In other words, the patentee knew how to claim that something should be "determined" by a particular base station and yet plainly did not do so in the manner that Evolved now contends. *See Impulse Tech. Ltd. v. Microsoft Corp.*, C.A. No.11-586-RGA-CJB, 2013 WL 2020055, at *17 (D. Del. May 13, 2013) (wording of claims suggests that patentee knew how to claim a particular limitation when desired) (citing

Kara Tech. Inc. v. Stamps.com Inc., 582 F.3d 1341, 1347 (Fed. Cir. 2009)); *see also Enzo Biochem, Inc. v. Applera Corp.*, 599 F.3d 1325, 1333 (Fed. Cir. 2010). Further, Evolved's argument is internally inconsistent and self-contradictory. For example, Evolved contends that "claims 15 through 23 [are] directed at methods performed by mobile devices." D.I. 60 at 20. Yet Evolved's own construction would require at least the first step of claim 15 to be performed by the source base station.

The extrinsic evidence confirms that the ordinary meaning of "target base station" does not require the source base station to make a handover determination. For example, Mobile Wi-Max defined "target base station" as "[t]he base station (BS) that a mobile station (MS) intends to be registered with at the end of a handover (HO)." Stiernberg Decl., Ex. 2 at 8.

Finally, use of the word "may" rather than "will" in Defendants' construction does not inject ambiguity into the claims; rather, it recognizes that while the claimed invention may intend that the terminal be transferred to the target base station, such a handover may not be successful in every instance. For example, in the exemplary embodiment depicted in Fig. 9, the specification indicates that "upon receiving the handover request from the source eNB (12); the target eNB (14) *may* transmit a handover confirm message to the source eNB (12) (S13)." '373 patent at 6:31-33 (emphasis added). Similarly, the terminal (UE) "*may* utilize the RACH for establishing the radio connection between the UE and the target eNB. (S15)" and "the target eNB (14) *may* receive the preamble of the UE." *Id.* at 7:9-11, 7:30 (emphasis added).

4. "the measurement report is used to determine" ('373 patent, cl. 17)

The parties disagree whether the measurement report in claim 17 of the '373 must be used "by the source base station" to determine whether to perform a handover. Evolved is again seeking to limit the claims to the exemplary embodiment shown in Fig. 9, in which "[u]sing the measurement report . . . the source eNB (12) may determine whether to perform a

handover." '373 patent at 6:21-22. Evolved admits as much. D.I. 60 at 22-23. This construction should be rejected for the same reason as Evolved's construction for "target base station"—namely, that it is a "cardinal sin" of patent law to a read limitation into the claims without a "clear indication" that patentee intended the claims to be so limited. *See SciMed*, 242 F.3d at 1340; *Liebel-Flarsheim*, 358 F.3d at 913. Here, there is no such clear indication. For example, claim 4 includes similar language that recites "determining whether to perform a handover based upon the *received* measurement report." '373 patent at 10:24-26 (emphasis added). By contrast, claim 17 includes no such "received" limitation, despite its dependence on claim 16, in which the source base station receives the measurement report. *See id.* at 11:21-23. Further, claim 15 requires that "the dedicated preamble is determined *by the target base station*." *Id.* at 11:10-11 (emphasis added). As noted above, all of this strongly suggests that the patentee knew how to claim that action should be performed "by" a particular base station and yet plainly did not do so in the manner that Evolved now contends. *See Impulse Tech.*, 2013 WL 2020055, at *17; *Enzo*, 599 F.3d at 1333.

V. CONCLUSION

For the foregoing reasons, Defendants respectfully request that the Court construe the disputed terms in accordance with Defendants' proposed constructions.

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